Comments and Responses to the September 9, 2002
Tentative Order No. R9-2002-0104 and Draft NPDES Permit No. CA0108821
for the Rancho California Water District, Santa Rosa Water Reclamation Facility
Discharge to the Santa Margarita River

The Regional Water Quality Control Board, San Diego Region (Regional Board) issued Tentative Order No. R9-2002-0104 and Draft NPDES Permit No. CA0108821 on September 9, 2002 for public comment. Written comments were received until close of business, October 2, 2002. This document is staff's response to comments received.

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Comments received from U.S. EPA	
1. We recommend that Chlorophyll-a and turbidity be added to the (receiving water) monitoring program.	• Errata sheet Item No. 8 adds this monitoring.
Comments received from Sierra Club, San Diego Chapter	
2. We would like to recommend that some measures of the assimilative capacity of the wildlife habitat also be included …We are not asking for a comprehensive assessment at this time but one that selects a few key biological indicators absent any existing assessments showing the response of this riparian habitat to the effluent discharged from the SRWRF.	• A comprehensive assessment of wildlife and habitat in the project area is included in the Environmental Impact Report (EIR) for this project. • However, no continuous assessment showing the response of wildlife and habitat to the discharge, such as the examples proposed, has been required in this, or any other NPDES permit issued by this Regional Board. • Staff believes that this analysis would be better suited for the studies that the discharger must undertake if attempting to obtain site-specific nutrient objectives.
3. Our concern…is that the ASAR (Adjusted Sodium Adsorption Ratio) may not be fully protective for the riparian flora in this watershed. The native flora may	• While the ASAR objective may have been established to protect agriculture, implementation of all applicable Basin Plan objectives, in combination with other state and federal

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not be as tolerant to the levels of sodium that are acceptable to the agricultural plants.	regulations, should suffice in protecting the riparian flora in the watershed.
4. We support the additional provision…that requires the discharger to submit the results of a study using pharmaceutical compounds to identify and quantify the effluent contributions on selected well sites from the SRWRF discharge…There is a growing concern over the harmful effects on aquatic life caused by the many and increasing amounts of pharmaceutical compounds entering the environment via the discharge of wastewater…Is it possible that this study could be designed to also provide more information on this issue?	• As the Sierra Club comment letter indicates, the primary objective of this study is to identify and quantify the pharmaceutical compounds from the SRWRF that are present in selected sites. • Staff believes that this information will be useful in determining the potential health effects to both humans and aquatic life. • In order to ensure that the Regional Board and California Department of Health Services (DHS) will consider this study to be thorough and complete, staff is confident that RCWD staff would welcome such comments in the development of their study design.
5. The monitoring stations shown in the map of the Fact Sheet should be revised to be in agreement with the station numbers given in Section H of the Tentative Order.	• The purpose of the map cited is to show the location of the SRWRF with respect to the *existing* monitoring stations and the Santa Margarita River. • The proposed monitoring stations are identified in Section H by including reference to the existing stations (e.g. "previously Station #2").
Comments received from RCWD	
6. The last sentence of Section 2.A of the Fact Sheet should be revised to read as follows: "Each District is solely responsible for maintenance, source control, and spill prevention/response to its collection system". Although RCWD anticipates providing some or all of	• Errata Sheet Item No. 1 makes this change.

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these services to the Murrieta County Water District in the future, no such provisions currently exist.	--(continued from previous page)--
7. The discharge point identified in Section 3.A of the Fact Sheet and Finding No. 6 of the Tentative Order is located within the City of Murrieta, not Temecula.	• Errata sheet Item Nos. 2 & 5 make this change.
8. The Temecula Aquifer or Temecula Arkose Aquifer was mis-identified in Section 4.C of the Fact Sheet as the Temecula Canyon Aquifer.	• Errata sheet Item No. 4 makes this change.
9. The last sentence of the second paragraph of Section 4.C of the Fact Sheet is incorrect. RCWD provides bottled drinking water to those households that use wells for drinking water purposes within the Temecula Canyon. This is because the Santa Margarita River directly influences these existing wells. The Temecula Aquifer does not exist in the Temecula Canyon. The aquifer structure within the Temecula Canyon consists of younger alluvium over fractured bedrock.	• Errata sheet Item No. 4 makes this change.
10. The requirements for a study to determine the groundwater impact from pharmaceutical compounds (Section 6.B.4 of the Fact Sheet and Section I.3 of the Monitoring & Reporting Program) appear to be contradictory to the second paragraph of Section 4.C of the Fact Sheet. As noted in the Fact Sheet, RCWD has two potable water supply wells downstream of the discharge point. Both of these wells are screened within the confined Temecula Aquifer and both wells	• Section I.1 of the MRP requires RCWD to "select two (new or existing) groundwater monitoring well sites that are distanced, but indicative of groundwater flow from the SRWRF." • If RCWD believes that the SRWRF effluent does not reach the Temecula Aquifer, than, in their proposal for selecting a well location, the District can explain the fate and transport of the effluent, and select well sites accordingly.

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are isolated from the influence of Murrieta Creek by the aquitard layer between the shallow unconfined Pauba Aquifer and the deeper confined Temecula Aquifer. Since no domestic water supply wells are located within the Pauba Aquifer, this request for a study by the Department of Health Services (DHS) appears to be unwarranted, especially since the DHS has confirmed the aquifer separation. RCWD requests that the pharmaceutical compound study be removed from the Monitoring & Reporting Program.	• It is possible that the nearest downgradient domestic wells subject to the discharge would be those of Camp Pendleton. In this example, RCWD would select a well location between the discharge and the Camp Pendleton wells (e.g. Temecula Canyon wells). The selected monitoring well sites do not have to be domestic water supply wells. • This requirement was requested by the DHS. Staff has forwarded this comment to the DHS, and DHS staff has confirmed that this requirement "is needed to protect Camp Pendleton's wells".
11. The requirements for groundwater monitoring to determine impacts to groundwater beneficial uses (Section 9.B of the Fact Sheet and Section I.1 of the Monitoring & Reporting Program) appear to be contradictory to the second paragraph of Section 4.C of the Fact Sheet. As noted in the Fact Sheet, RCWD has two potable water supply wells downstream of the discharge point. Both of these wells are screened within the confined Temecula Aquifer and both wells are isolated from the influence of Murrieta by the aquitard layer between the shallow unconfined Pauba Aquifer and the deeper confined Temecula Aquifer. Since no domestic water supply wells are located within the Pauba Aquifer due to noncompliance with drinking water standards unrelated to the discharge project, no impacts to groundwater beneficial uses are anticipated. RCWD requests that the groundwater monitoring be removed from the Monitoring & Reporting Program, or modified to require monitoring only for RCWD's two	• If RCWD believes that the SRWRF effluent does not reach the Temecula Aquifer, then wells 101 and 118 would not be considered "indicative of groundwater flow from the SRWRF". Consequently RCWD should determine which domestic wells (whether currently off-line or not) are, or could be affected by the SRWRF discharge, and then should select well monitoring sites accordingly. • This requirement was also requested by the DHS. Staff has forwarded this comment to the DHS, and DHS staff has confirmed that this requirement "is needed to protect Camp Pendleton's wells".

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existing potable water supply wells (Well No. 101 and Well No. 118).	--(continued from previous page)--
12. RCWD agrees with changing the location of monitoring stations as proposed in Section H of the Monitoring & Reporting Program. The location is unclear for Monitoring Station No. 2 on Murrieta Creek. Should this location be upstream of Warm Springs Creek?	• Yes, upstream. As stated in H.2 of the Monitoring Program, station No. 2 shall be " Murrieta Creek Channel, 250 feet downstream of the SRWRF discharge, prior to any confluence with Murrieta Creek."
13. There appears to be a lack of justification for the changes in the receiving water monitoring program (Section 9.A of the Fact Sheet and Section H of the Monitoring & Reporting Program). RCWD disagrees that justification exists for the requirement of monitoring Temecula Creek since the permitted discharge does not affect Temecula Creek. RCWD also disagrees that justification exists for changing the monitoring frequency from monthly to weekly since no negative impacts were identified from RCWD's discharge during the past five years. Furthermore, this change in the downstream monitoring program has an additional fiscal impact of approximately $150,000 per year. RCWD disagrees that justification for the "watershed management level" of monitoring is required if the alternate effluent limitations for nitrogen and phosphorus per Chapter 4 of the Basin Plan are not allowed. Also, please also be aware that the revised monitoring program for the effluent has an additional fiscal impact of approximately $100,000 per year.	• Section H.1 of the Monitoring and Reporting Program (MRP) states that, "to determine compliance with water quality standards, the receiving water quality monitoring program must document conditions in the vicinity of the receiving water discharge points, *at reference stations*, and at areas beyond the immediate vicinity…" Temecula Creek is considered a reference station. • This type of a receiving water monitoring program (i.e. number of stations and frequency of monitoring) is comparable to those of other wastewater treatment plants discharging under NPDES permit requirements in this region, and is commensurate with the potential threat to water quality associated with the discharge. Staff believes this level of monitoring is appropriate for a discharge of wastewater to waters that are recommended for 303(d) listing. • Furthermore, it is in the discharger's best interest to gather information that can assist in determining whether their discharge can be held accountable for pollution of receiving

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--(continued from previous page)--	waters. • With regards to effluent monitoring, the US EPA's Permit Writers' Manual states that, "a highly variable discharge should require more frequent monitoring". In light of the compliance history and the yet-to-be-resolved whole effluent toxicity issues, the SRWRF effluent is considered to be of a variable nature that would warrant the frequencies established. • The Whole Effluent Toxicity (WET) monitoring frequency is determined in accordance with the US EPA guidance document for implementing WET testing programs (p. 2-28).

14. Finding No. 12 of Tentative Order No. R9-2002-0104 cites only the numerical concentration goals established in Chapter 3 of the Basin Plan, and omits reference to the alternative method of nutrient compliance set forth in Chapter 4 of the Basin Plan. The Basin Plan allows the Regional Board to establish effluent nitrogen and phosphorus concentration limits on the basis of either numerical concentration goals established in Chapter 3 of the Basin Plan, or an alternative method of compliance set forth in Chapter 4 of the Basin Plan. The alternative method of compliance set forth in Chapter 4 of the Basin Plan protects beneficial uses by requiring (1) best available treatment technology economically achievable, (2) the establishment of a watercourse monitoring and management plan, and (3) the development and implementation of corrective actions to insure that nutrients do not adversely impact beneficial uses. The alternative nitrogen and	• Page 4-36 of the Basin Plan states that, "the Regional Board will establish appropriate effluent limitations…using one of the following methodologies:
	  • The Regional Board may use the goal for phosphorous concentration in flowing water contained in the Biostimulatory Substances objective as guidance in establishing appropriate effluent limitations; ***or***
	  • Alternatively, the Regional Board may determine compliance with the narrative objective based upon the following factors…."
	• It is true that the Basin Plan *allows* an alternative method of compliance, *at the discretion of the Regional Board*.
	• The receiving water monitoring data received thus far (i.e. water chemistry and benthic invertebrate analyses) does not support the imposition of alternative compliance measures for nutrients.
	• In order to determine whether beneficial uses would be

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phosphorus compliance methodology set forth in Chapter 4 of the Basin Plan does not compel the California Regional Water Quality Control Board (Regional Board) to set nitrogen effluent limits at 1.0 mg/l or phosphorus effluent limits at 0.1 mg/l. Further, in establishing the alternative compliance methodology (which was originally established in Resolutions No. 90-53 and No. 91-23, and subsequently incorporated into the 1996 version of the Basin Plan), it was the clear intent of the Regional Board to allow NPDES nitrogen and phosphorus effluent limits to be established without the need for the formal development of Site-Specific Objectives. (Indeed, the alternative compliance methodology was developed by the Regional Board as an alternative means of protecting beneficial uses while encouraging stream discharge, as it was recognized that it was not feasible for recycled water discharges to comply with 1.0 mg/L nitrogen and 0.1 mg/l phosphorus concentration limits.)	protected at higher nutrient concentrations, further studies (that are required in order to obtain site-specific objectives) are necessary. • Only with this additional information can Regional Board (and RCWD) staff analyze the assimilative capacity for nutrients and determine whether the subject discharge is feasible at both the existing and projected flows.
15. Effluent nitrogen and phosphorus requirements established in the existing NPDES Permit (Order No. 96-54) were based on this alternative compliance methodology. In accordance with this methodology and the requirements established in Order No. 96-54, RCWD implemented a watercourse monitoring and management plan, and submitted a plan of corrective actions to be implemented in the event of nutrient-related impacts to beneficial uses. Since the stream discharge project was defined in Order No. 96-54 as a	• Staff does not find that corrective actions are appropriate, since it cannot be determined whether the subject discharge is or is not having an adverse effect on the beneficial uses. It is for this reason that the pilot project duration has been extended with additional requirements, as stated in tentative Cease and Desist Order (CDO) No. R9-2002-0212. Once the requirements of tentative CDO R9-2002-0212 are met, the demonstration project could be redesignated to a permanent discharge. In order to make these determinations, however, a comprehensive monitoring program, such as the one

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"demonstration project," termination of the discharge represented RCWD's ultimate "corrective action" to insure that discharged nutrients do not impact beneficial uses. Monitoring data collected in accordance with Monitoring and Reporting Program No. 96-54 did not indicate that the "demonstration project" discharge was having an adverse effect on beneficial uses. As a result, the Regional Board did not require RCWD to terminate the discharge or implement any nutrient-related "corrective actions" during the effective period of Order No. 96-54.	proposed in this tentative Order, is necessary. • Staff is not suggesting termination of the discharge as the ultimate corrective action, with the adoption of this tentative Order.
16. RCWD implemented the original stream discharge to Murrieta Creek on the understanding that the Regional Board would establish NPDES nitrogen and phosphorus effluent limits on the basis of the alternative compliance methodology. Discharge standards assigned to RCWD in Order No. 96-54 were in accordance with this alternative nutrient compliance methodology. Without presenting adequate justification, however, the Regional Board has now proposed in Discharge Specification B.7 of Tentative Order No. R9-2002-0104 to establish NPDES permit concentration limits that are identical to the Basin Plan numerical nitrogen and phosphorus goals. Such objectives are not economically (and perhaps not technically) achievable. RCWD believes that the proposed nitrogen and phosphorus standards are unnecessary and unwarranted. RCWD additionally believes that the Basin Plan allows the Regional Board	• The change in nutrient effluent limitations is justified by the following: ➢ Nitrogen and phosphorous concentrations in the immediate receiving waters are higher than the Basin Plan water quality objectives of 1.0 and 0.1 mg/L, respectively. ➢ The proposed 303(d) list includes the (upper) Santa Margarita River (HSA 902.22) and Murrieta Creek (HSA 902.52) as impaired for phosphorous. ➢ At the time that Order No. 95-54 was issued, the Regional Board may have believed that the Beneficial Uses could be sustained at concentrations higher than the Basin Plan objectives. ➢ The benthic invertebrate analyses that were submitted (albeit sporadically) by RCWD as part of their monitoring requirements do not support this theory. ➢ The data has been recently compiled and analyzed by the California Department of Fish and Game (CDFG).

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to maintain the existing 5.0 mg/L nitrogen and 1.0 mg/L phosphorus limits without the need to develop Site-Specific Objectives.	Benthic invertebrate analyses in the receiving waters suggest a "fair to poor" index of biotic integrity (IBI), which is a multimetric analytical approach recommended by the US EPA for assessing the overall "ecological health" of an aquatic community. ➢ Frequency of monitoring for benthic invertebrate analyses has been adjusted to provide more "weight of evidence" to the IBI.
17. Information presented in the Tentative Order is insufficient to document and support (1) why it is not possible (or appropriate) to maintain the nitrogen and phosphorus effluent limits established in Order No. 96-54 on the basis of the alternative Basin Plan nutrient compliance methodology, (2) why an increase in the discharge above 2.0 million gallons per day is not allowed, and (3) why Site-Specific Objectives would be required in order for the Regional Board to establish such alternative effluent limits. RCWD requests that the effluent limitations for total nitrogen and total phosphorus to remain at 5.0 and 1.0 mg/L, respectively, for Tentative Order No. R9-2002-0104 for the following reasons:…	• The comments provided in response to comment No. 16 explain why staff believes it is not appropriate to maintain the nitrogen and phosphorus effluent limits previously established. • Until it can be demonstrated that there is sufficient assimilative capacity in the receiving waters, an increase in the discharge above 2.0 million gallons would result in an increase in the mass loading of nutrients to the receiving waters. • Site-Specific objectives require an assimilative capacity analysis, which again, is necessary in determining whether the receiving waters can sustain the existing or increased nutrient loads coming from the SRWRF discharge. If the analysis reveals that the receiving waters can accommodate nutrient loads at concentrations greater than the existing objectives, than the pilot discharge can be considered a viable alternative.
18. Section 1.E of the Fact Sheet confirms the poor ecological health of Murrieta Creek and the Santa	• Regional Board staff is not suggesting that that subject discharge is the sole or primary cause for the poor ecological

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Margarita River prior to the initiation of the recycled water discharge. Finding No. 14 of Tentative Order No. R9-2002-0104 clearly states that no "deleterious effects" occurred within the downstream receiving waters that would warrant termination of the pilot study. As previously described in RCWD's Report of Waste Discharge, water quality problems within Murrieta Creek, Temecula Creek, and the Santa Margarita River are primarily related to non-point source pollution. The purpose of RCWD's pilot project and the ultimate project envisioned with the Four Party Agreement, was for the discharge of recycled water to improve the water quality of the Santa Margarita River due to the impacts for non-point source pollution. Please be aware that adoption of Tentative Order No. R9-2002-0104 and Tentative Cease and Desist Order No. R9-2002-0212, as proposed, is anticipated to effectively terminate RCWD's ability to discharge recycled water into Murrieta Creek, for reasons identified above in Items 8 through 12.	health of Murrieta Creek and the Santa Margarita River. However, the subject discharge does contribute to the mass loading of pollutants in the receiving waters. Staff is merely implementing the measures that are standard and necessary to protect the beneficial uses of the receiving waters, including those downstream of the discharge. • Although the tentative order and CDO may require additional costs and analyses to continue the discharge, these measures do not "terminate RCWD's ability to discharge recycled water". This determination can only be made after the appropriate analyses have been conducted. If RCWD decides to cease discharge, it is because they choose not to pursue these additional measures. • Staff believes that the Four Party Agreement proposed the subject project for multiple reasons: 1. To convey water to the appropriate parties in accordance with law-suit settlements over water rights. 2. To seek a low-cost wastewater disposal alternative that would accommodate dischargers' increasing infrastructure, and possibly, 3. To improve the water quality of the Santa Margarita River. The subject discharges happen to be the most direct way to resolve the first two objectives.
Comments received from Eastern Municipal Water District	
19. In contrast to Order No. 96-54, the Tentative Order No. R9-2002-0104 has revised the nutrient limitations to 1.0 mg/L and 0.1 mg/L for total nitrogen and total phosphorus, respectively. This permit does not clearly	• Refer to responses to comment Nos. 14 and 16.

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explain the rationale for the departure from the nutrient limitations set in Order No. 96-54. Finding No. 14 states that no ”deleterious effects” occurred within the downstream receiving waters that would warrant termination of the pilot study. In our discussions related to the live stream discharges, the basis for the Basin Plan numeric nutrient limitations for the Santa Margarita River has been questioned and this permit for RCWD was intended to provide the necessary data to determine site specific nutrient objectives, not simply assimilative capacity. Eastern Municipal Water District (EMWD) requests that the effluent limitations for this permit be revised to 5.0 mg/L and 1.0 mg/L for total nitrogen and total phosphorus, respectively.	--(continued from previous page)--
20. In Tentative Order No. R9-2002-0104, the monitoring requirements have been greatly increased yet the limitations for nutrients have been reduced. If the nutrient limitations are protective, then the rationale for the increased monitoring is not warranted.	• Refer to response to comment No. 13.
21. In the Fact Sheet, paragraph 1E is not consistent with the discussions the Four Parties had with your office and US EPA on June 10, 2002. This paragraph stated that the preliminary benthic invertebrate analyses in the receiving waters appear to confirm a “fair to poor” index of biotic integrity. It is not clear that there is enough data to determine the health of the river, hence the demonstration project. If the Regional Board has already made a determination on the overall health of	• As of June 10, 2002, staff had not received the 2002 Biological Assessment Report from CDFG or conducted a comprehensive review of the benthic invertebrate analyses. • However, the actions recommended by Regional Board staff are consistent with the alternatives that John Robertus, the Regional Board Executive Officer, listed at the June 10, 2002 meeting. • Response to comment No. 14 above provides additional

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the river, then how can the Cease and Desist Order support the development of site specific water quality objectives.	detail with regards to the benthic invertebrate analyses.
22. In Tentative Order No. R9-2002-0104, the discharge flow has been retained at 2.0 MGD, when up to 5.0 MGD was requested. As stated in Finding No. 14, the discharge has not shown "deleterious effects" to warrant termination of the pilot project. This incremental increase in the flow would provide valuable data for determination of the site specific water quality objective. EMWD recommends either the Tentative Order or the Cease and Desist Order be revised to allow the discharge flow rate to be increased as requested by RCWD for 3 MGD during the month of May through November and 5 MGD during the months of December through April.	• Refer to response to comment No. 17 above. • It should be pointed out that Eastern Municipal Water District (EMWD) is commenting on flow restrictions applied to RCWD because EMWD currently exceeds their existing treatment plant capacity and diverting influent to RCWD's SRWRF is the most immediate solution to their treatment capacity problems. In order to accommodate these additional inflows, however, RCWD would need an increase in discharge flow limitations.
Comments from the Riverside County Flood Control and Water Conservation District	
23. …The current discharge point is upstream of a proposed detention basin and environmental restoration project being planned by the Riverside County Flood Control and Water Conservation District and the U.S. Army Corps of Engineers (USCE) as part of the Murrieta Creek Flood Control Project…A continuous unmaintained vegetated corridor with an average width of 150 feet will be established in the channel bottom along the entire length of Murrieta Creek within the seven-mile-long project area…The USCE's	• Again, the tentative order does not prohibit the discharge, but rather it established water quality criteria that must be met in order to continue a discharge of treated wastewater to Murrieta Creek. • While Regional Board staff supports the intent of the Murrieta Creek Flood Control Project, the development of this project assumed an inherent risk in relying on the demonstration project to provide water to vegetate the corridor. • If RCWD ceased to discharge treated wastewater from the

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justification for the project was the realization of both environmental restoration benefits and flood control benefits…. …Establishing and maintaining vegetation within the basin and along Murrieta Creek will require continuous flows, such as those from RCWD. Establishment and success of the vegetation in the widened creek and within the basin depends substantially on RCWD's current discharge rate. In the absence of RCWD's treated wastewater discharge, imported water would have to be piped in and purchased at a prohibitive cost…	SRWRF, the District may have to apply for a Streambed Alteration permit with the California Department of Fish and Game. • In absence of any discharge to Murrieta Creek (including contributions from MS4s), the creek bed would return to its previous, pre-discharge (dry) habitat. In this case, staff believes that the Flood Control District should benefit from the added flood capacity along Murrieta Creek. • Staff also believes that the Flood Control District would save costs by not having to clear the vegetation in the creek on a routine basis.